Defense Research and Engineering: Turning Data Into Knowledge

Open Access to Federally-Funded STI Publications

April 6, 2005

Open Access:
The Changing Nature
of
Scientific Communication

Defense Technical Information Center

Overview

- Evolution of Open Access
- Why Such Resistance
- Community Responses
- Open Access - New Models

Research and Scientific Community

- Growing interest in open access
  - Intensive computer users
  - Datasharing a community norm
  - Working in interdisciplinary areas
  - Want to search across disciplines
  - Want sophisticated searching and manipulation
  - Want ready access to data, image files, simulations

New Demands Societal Benefits Driving Change

- Expanded Research Availability
- Increasing demands for access - use of PubMed increased 100 fold once PubMed dropped registration fee. Majority of use were ‘dot.coms’
- Accelerated innovation
- Magnified return on research investment
  - Economic (e.g., prosperity)
  - Social (e.g., health)
- Accountability on public investment in research

New Demands
Change is all around

BusinessWeek

MARCH 2, 2004

Tearing Down the Walls in Telecom

In a few years, it "will be a sectorless industry," with phone, cable, and even power companies all selling the same ices...

BBC NEWS

May 28, 2004

Downloads 'fuel music recovery'

The beleaguered global music industry says it expects to see an increase in music sales next year.

InformationWeek
BUSINESS INNOVATION POWERED BY TECHNOLOGY

Bound For Industry Upheaval– With A Layover In Dallas

The Internet continues to drive n
Expedia.com® pe in

amazon.com.

Issues With Current System

- Decentralized
- Proprietary
- Search citations and abstracts only
- Reference linking useful, but not sufficient
- Access limited to those in institutions well-off enough to subscribe
- Archives of publicly funded research shouldn’t be privately owned

Objections

- Dangerous to have works that have not been peer-reviewed on a publicly accessible site
- Would destroy current system
- Government takeover of private enterprise
- Dangerous to have government control of information
- No need for a centralized service given the decentralized nature of the Web

Why Such Resistance?

- STM Publishing is a lucrative business
- “Science: the perfect business?”
  - Free content provided to publishers by authors
  - Immense pricing power due to “must have” nature of the content
  - Leadership premium - “the rich get richer”

Taxpayer Access

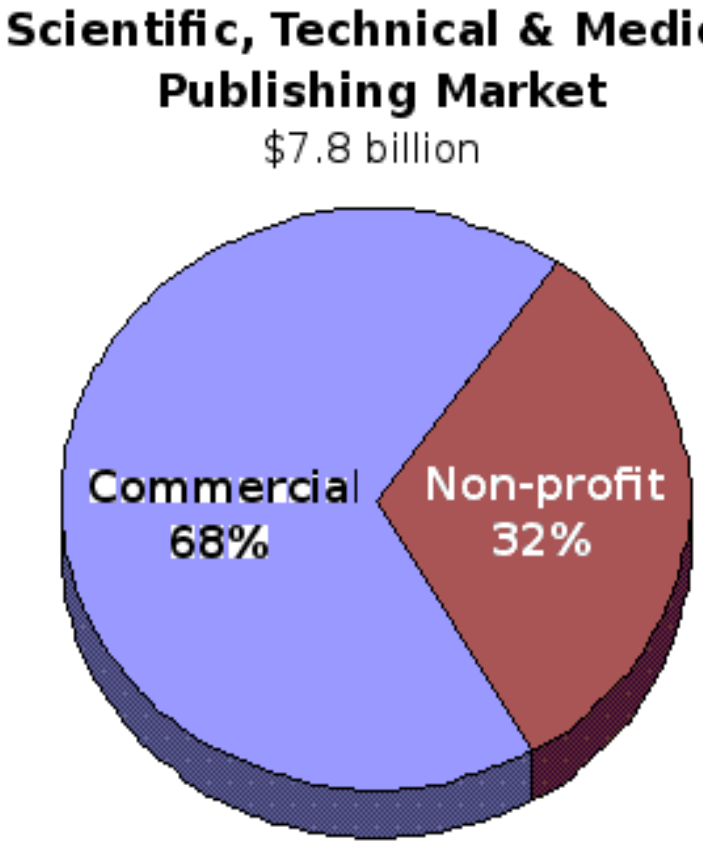
Credit Suisse First Boston:

"[W]e would expect governments (and taxpayers) to examine the fact the fact that they are essentially funding the same purchase three times: governments and taxpayers fund most academic research, pay the salaries of the academics who undertake the per review process and fund the libraries that buy the output, without receiving a penny in exchange from the publishers for producing and reviewing the content…

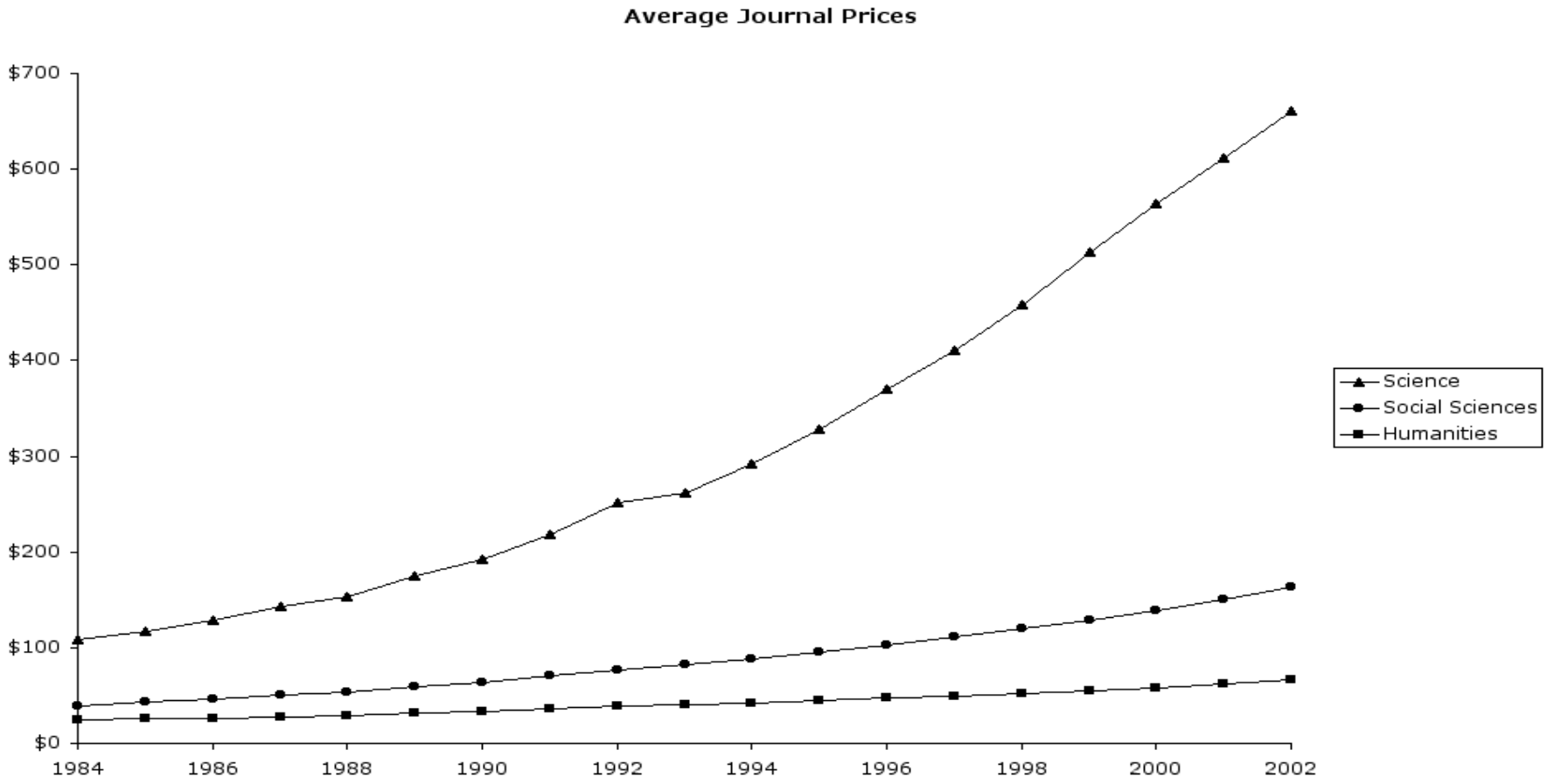
"We do not see this as sustainable in the long term, given pressure on university and government budgets."

-Sector Review: Scientific, Technical and Medical Publishing, April , 2004

Commercialization



Average Journal Prices



Association of Research Libraries

Effects of Publisher Consolidation

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Exerting Control

- Licensing of electronic content
  - Libraries no longer “own” copies of resources
  - Licenses dictate who can access the resource and how they can use it
  - Content is often bundled w/ multi-year agreements that make it difficult to cancel

Drive to Control and Protect Content

- Legislation:
  - Copyright Term Extension
  - Database Protection
  - TPM's and DMCA
- Licensing:
  - Fewer and fewer researchers and students have less and less access to a decreasing proportion of the literature
  - Long-term access in an electronic environment controlled by the publisher is dangerous
  - Restrictions are placed on the educational use of copyrighted works

Science and...

"...much of the power of science... derives from the steadfast commitment to free and unfettered communication of information and knowledge...

- Dr. Donald Langenberg

Opportunity for Change

New Models Born of the Web

- Availability of digital publishing technologies
- Availability of digital ubiquitous networks
- Economics of Internet -- low marginal cost of dissemination

Technology Could Bring Change

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Potential for Open Access

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Open Access

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Open Access and Copyright

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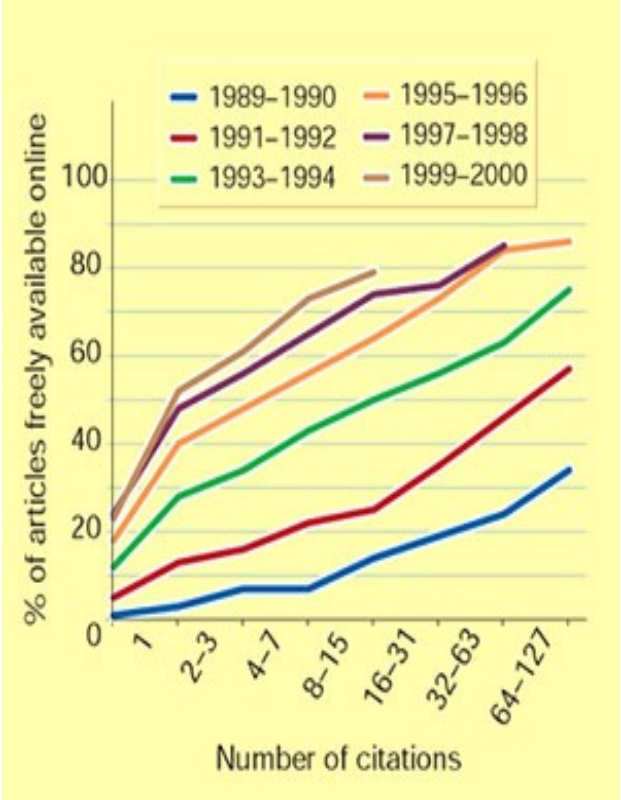
What is “Open Access”?

1.

2.

Advantages of Open Access



- Expanded *access* to research
- Expanded *impact* of research
- Reduced systemic *cost*

Lawrence, Steve (2001). “Free online availability substantially increases a paper's impact.” *Nature*, Vol. 411, No. 6837, p. 521 <www.nature.com/nature/debates/e-access/Articles/lawrence.html>

Open-Access Journals

- Pay for *publication*, not *access*.
- Successful conversions will be pulled by community, not pushed by others.
- Will require experimentation

BioMed Central

PUBLIC LIBRARY OF SCIENCE

ATG
Algebraic & Geometric Topology

Journal of Insect Science

Obstacles To Open Access

- Need/desire to publish in prestigious journal
  - Open access journals are relatively new
  - Established journal may require exclusive copyright
  - Tenure committees may not accept free online journals as of sufficient quality
  - Faculty awareness of the overall issues
- Difficulty of stakeholders to make the transition
  - Finding an economic model that works
  - May cost more during transition phase

Journal Publishing

Growing Support of OA

Create a Culture of Support for Expanding Access to Public-Funded Research Information

- Public Mission and Public Trust
- Consider total dollars received by institutions from DTIC and other federal science agencies - and the accompanying responsibility to:
  - Serve science
  - Serve the public and the community
- Break the “logjam” by forcing the new conversations about how we will all pay for the cost of publishing and disseminating the scientific knowledge created.

DTIC Conference
April 6, 2005

NIH Public Access Policy

Assistant Director for Policy Development
National Library of Medicine
National Institutes of Health/DHHS

Approved for Public Release. U.S. Government Work (17 USC§105) Not copyrighted in the U.S.

Background

- NIH-supported research is essential to improving human health
- Public Access to information resulting from this research is vital
  - Engage public in biomedical research
  - Demonstrate productivity resulting from doubling NIH budget
  - Enable information integration of biomedical literature and databases

NIH Leading the Way

- Establish public digital archive of publicly funded research
  - Create venue for NIH funded authors to make work available independent of particular publication
  - Provide high quality medical information for Internet-savvy public
  - Enable end-to-end electronic management of NIH grant process & better portfolio analysis

House Appropriations Language

- “The Committee is very concerned that there is insufficient public access to reports and data resulting from NIH-funded research. This situation, which has been exacerbated by the dramatic rise in scientific journal subscription prices, is contrary to the best interests of the U.S. taxpayers who paid for this research.” **(July 8, 2003)**

- “The Committee is aware of a proposal to make the complete text of articles and supplemental materials generated by NIH-funded research available on PubMed Central (PMC)… The Committee supports this proposal and recommends that NIH develop a policy, to apply from FY 2005 forward, requiring that a complete electronic copy of any manuscript reporting work supported by NIH grants or contracts be provided to PMC upon acceptance of the manuscript for publication in any scientific journal listed in the NLM's PubMed directory.” **(Sept. 7,2004)**

Policy Goals

- ACCESS Provide electronic access to NIH-funded research publications for patients, families, health professionals, teachers, and students.
- ARCHIVE Keep a central archive of NIH-funded research publications—for now and in the future, preserving vital medical research results and information for years to come.
- ADVANCE SCIENCE Advance science by creating an information resource that will make it easier for scientists to mine medical research publications, and for NIH to better manage its entire research investment.

Proposed Policy

- In September 2004, NIH proposed a policy to enhance public access to archived publications resulting from NIH-funded research.

  - The draft policy requested, but did not require, that NIH-supported investigators submit electronically to the NIH the final, peer-reviewed author's copy of manuscripts upon acceptance for publication.

  - The manuscripts would be archived in PubMed Central (PMC).

  - The author’s copy would be made available freely to the public through PMC six months after the publisher’s date of final publication (or sooner if the publisher agrees).

Public Comments on Proposed Policy

- Public meetings
  - Publishers and Associations (July 2004)
  - Investigators (August 2004)
- Disease advocacy groups (August 2004)
- Notice in *NIH Guide for Grants and Contracts*
    - September 3, 2004
- Notice in *Federal Register*
  - September 17, 2004
- 6,249 comments received
- Talks, visits, interviews, letters

Final Policy

- NIH-funded investigators are requested to submit an electronic version of the author's final manuscript upon acceptance for publication, resulting from research supported in whole or in part, with direct costs from NIH.

- Beginning May 2, Electronic submission will be made directly to the NLM's Pub Med Central (PMC) digital repository of full-text, peer-reviewed, biomedical, behavioral, and clinical research journals.

- At the time of submission, author will specify the timing of the posting for public accessibility.

- NIH strongly encourages authors to post for public accessibility as soon as possible (and within twelve months of the publisher's official date of final publication.) NIH expects that only in limited cases will authors deem it necessary to select the longest delay period.

Final Policy Revisions

In response to feedback, NIH revised the proposed policy in February 2005 to:

- Emphasize the voluntary nature of authors' submissions.
- Clarify "NIH-funded investigators" to mean those supported with "direct costs" from NIH.
- Provide authors with flexibility to specify the timing of the posting of their final manuscript for public accessibility through PMC.
- Strongly encourage posting for public accessibility through PMC as soon as possible and within 12 months of the publisher's official date of final publication.

Final Policy – Coverage & Timing

- *The policy applies to:*
  - Peer-reviewed publications resulting from research supported in whole or in part with direct costs from NIH
  - All research and career development award mechanisms, cooperative agreements, contracts, NRSA grants, and NIH intramural research studies
- *The policy does not apply to:*
  - Book chapters, editorials, reviews, conference proceedings
- *Authors should submit publications resulting from:*
  - Currently funded NIH research projects or
  - Previously supported NIH research projects that are accepted for publication on or after May 2, 2005

Author's final manuscript = *final version accepted for journal publication and includes all modifications from the peer review process*

NIH is Not a Publisher

- NIH supports the current publishing process by providing direct costs to its funded investigators for publication costs.
- The Policy creates a stable archive of peer-reviewed, research publications financed with NIH funds.
- The Policy is compatible with any publishing model that authors and journals choose to employ.

Impact on Scientific Publishing

- NIH supports the current publishing process by providing direct costs to investigators for publication costs, including page and color charges and reprints.
- Only a minor portion of articles published in scientific journals result from research funded by the NIH.
  - **NIH-funded research represents about 10% of the articles in the nearly 5000 journals indexed by PubMed**
  - **NIH-funded articles account for more than half of the total published articles for only 1% of these journals**
- Increasing # of journals provide access to published article immediately or within one year of publication.
- More journals post accepted manuscripts and allow self-archiving in institutional repositories

Copyright Issues

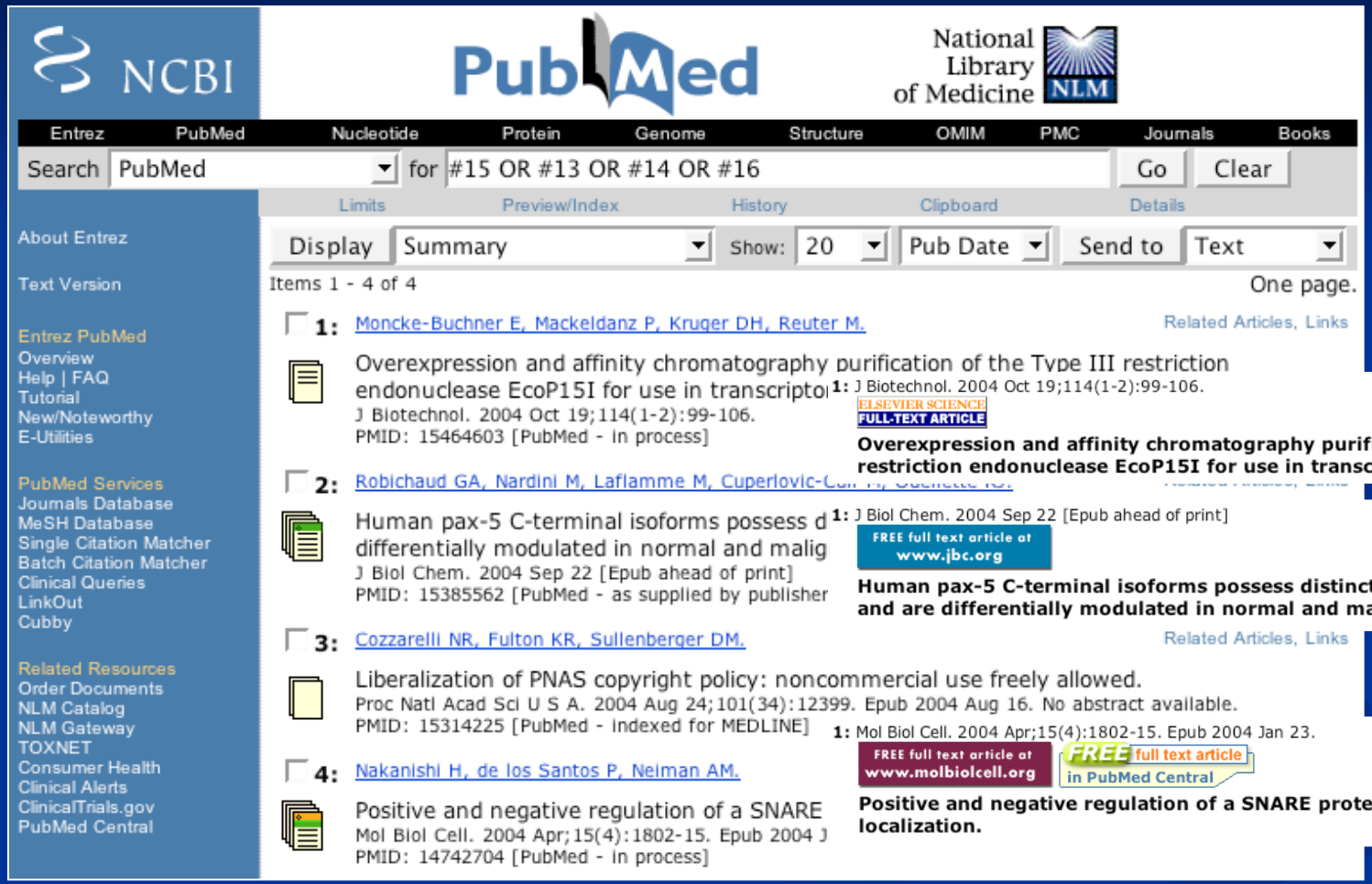
- The NIH policy explicitly recognizes and upholds the principles of copyright.
- Authors/journals can continue to assert copyright in NIH-funded scientific publications, in accordance with current practice.
- While individual arrangements can take many forms, NIH encourages authors and institutions to sign agreements that specifically allow the manuscripts to be deposited with NIH for public posting on PMC as soon as possible after journal publication

Sample Copyright Agreement Statement

- As an example, the kind of language that an author or institution might add to a copyright agreement includes the following:

  "Journal acknowledges that Author retains the right to provide a copy of the final manuscript to NIH upon acceptance for Journal publication or thereafter, for public archiving in PubMed Central as soon as possible after publication by Journal."

Linking Vs. Archiving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4: Nakanishi H, de los Santos P, Neiman AM.
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Mol Biol Cell. 2004 Apr;15(4):1802-15. Epub 2004 J
PMID: 14742704 [PubMed - in process]
Positive and negative regulation of a SNARE protein by control of intracellular localization.

Advantages of Depositing in PMC

- Fulfills a grant progress reporting requirement by substituting deposit for submission of paper copies of articles
- Ensures that the article is available in PMC to be cross-linked to a variety of research related resources and databases, such as: DNA, protein sequences, protein structures, chemical structures
- These databases also provide linkage to a broad collection of other biological and health-related information resources including MedlinePlus and ClinicalTrials.gov
- Heightens the visibility of the research and enhances the likelihood of early and increased citation
- Ensures permanence of the record of science
  - PubMed Central as NIH's institutional repository
  - NLM has statutory mandate to archive the biomedical literature and over 150 years experience

PMC in February 2005

- **178** journals
- **373,000** items (> 50% from digitized back issues)
  - includes some pieces (e.g., book reviews) not in PubMed
- Users: **844,000** unique IP addresses. Actual users estimated to be **2.5 times** this number.
- Retrieval: Over **3.48 million** full-text (HTML or PDF) articles
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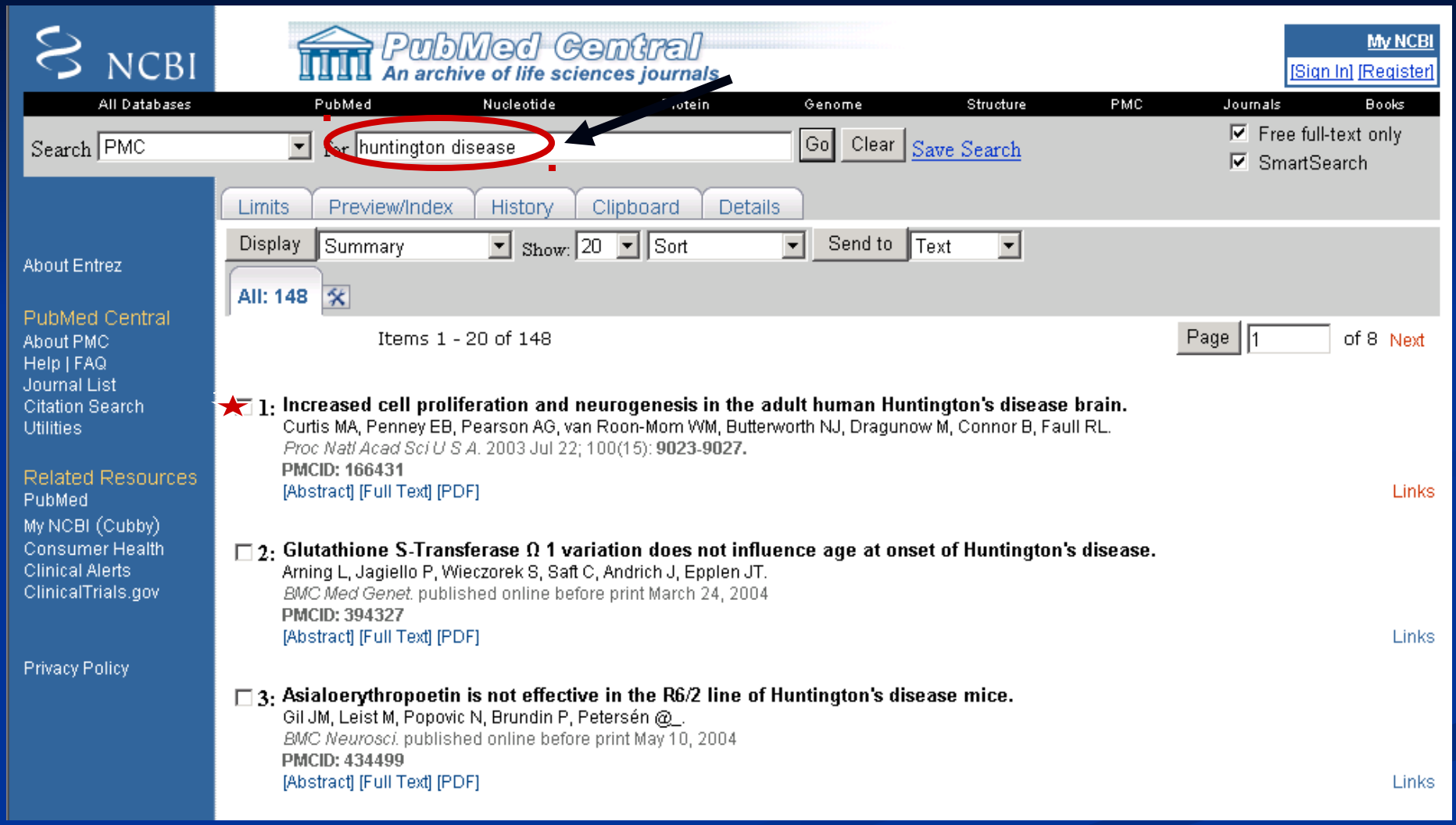
  - Online journals: impact on print journal usage
    Sandra L. De Groote ...
    Bull Med Libr Assoc. Oct 2001;89(4):372-378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Proc Natl Acad Sci U S A. 2003 Jul 22; 100(15): 9023-9027.
PMCID: 166431
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2: Glutathione S-Transferase Ω 1 variation does not influence age at onset of Huntington's disease.
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BMC Med Genet. published online before print March 24, 2004
PMCID: 394327
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3: Asialoerythropoetin is not effective in the R6/2 line of Huntington's disease mice.
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doi: 10.1073/pnas.1532244100.
Neuroscience

Increased cell proliferation and neurogenesis in the adult human Huntington's disease brain

Maurice A. Curtis,[*,†] Ellen B. Penney,[*] Andree G. Pearson,[†] Willeke M. C. van Roon-Mom,[*] Niqi J. Butterworth,[†] Michael Dragunow,[†] Bronwen Connor,[†‡] and Richard L. M. Faull[*‡]

Departments of [*]Anatomy with Radiology, and [†]Pharmacology and Clinical Pharmacology, Faculty of Medical and Health Sciences, University of Auckland, Private Bag 92019, Auckland, New Zealand

Edited by L. L. Iversen, University of Oxford, Oxford, United Kingdom, 2003 June 2 (received for review 2003 April 16)

‡ To whom correspondence should be addressed. E-mail: b.connor@auckland.ac.nz or rlm.faull@auckland.ac.nz.

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Abstract

Neurogenesis has recently been observed in the adult human brain, suggesting the possibility of endogenous neural repair. However, the augmentation of neurogenesis in the adult human brain in response to neuronal cell loss has not been demonstrated. This study was

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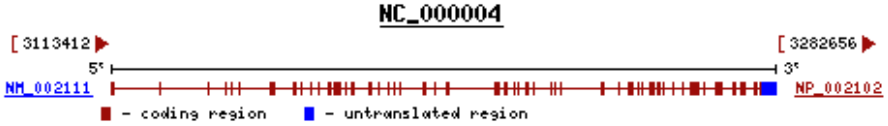
☐ **1: HD huntingtin (Huntington disease)** [*Homo sapiens*] Links

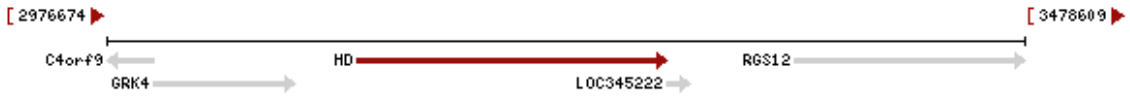
GeneID: 3064 Locus tag: HGNC:4851; MIM: 143100 updated 09-Mar-2005

Official Symbol: HD **and Name:** huntingtin (Huntington disease) **provided by** HUGO Gene Nomenclature Committee

Transcripts and products: RefSeq below



Genomic context: chromosome: 4; **Maps:** 4p16.3



Gene type: protein coding
Gene name: HD
Gene description: huntingtin (Huntington disease)
RefSeq status: Reviewed
Organism: *Homo sapiens*

▶ Bibliography: Gene References into Function (GeneRIF): **Submit** help

PubMed links

GeneRIFs:

1. Transcription from three initiation sites located within a 50-bp region in the phosphodiesterase 10A-specific promoter is differentially affected by the presence of the mutant huntingtin transgene.	PubMed
2. These results suggest that Tpr has a role in the nuclear export of N-terminal htt and that polyQ expansion reduces this nuclear export to cause the nuclear accumulation of htt.	PubMed
3. Causes huntingti0n disase when transfected into mice.	PubMed
4. Growing evidence discussed in this review suggests that mutant huntingtin mediates multiple pathological pathways causing selective neurodegeneration in brains of Huntington's disease patients.	PubMed
5. In Huntington's disease, expansion occurs in the huntingtin protein. (review)	PubMed
6. siRNA is not directly linked to DNA methylation at the target huntingtin genomic locus in human cells	PubMed
7. Time course of striatal degeneration produced by expanded huntingtin (Exp-Htt)occurs rapidly: at 48 h post-transfection, 60% of cultured striatal neurons expressing Exp-Htt have apoptotic characteristics including fragmented DNA and neuritic retraction.	PubMed
8. is involved in fast axonal trafficking	PubMed
9. Here we show dramatic mutation length increases (gains of up to 1000 CAG repeats) in human striatal cells early in the disease course, most likely before the onset of pathological cell loss.	PubMed
10. A patient with triosephosphate isomerase (TPI) deficiency exhibited worsening of abnormal involuntary movements of the dystonic type and developed psychiatric symptoms while on selegiline.	PubMed
11. Regulated expression of huntingtin (Huntington disease) induced reversible striatal neuropathology typical for Huntington disease.	PubMed
12. Nonnuclear events induced by cytoplasmic huntingtin aggregation play a central role in the progressive neurodegeneration observed in Huntington's disease.	PubMed
13. Our findings using htt exon 1 suggest that the process of mutant htt aggregation rather than the resulting inclusion body is critical for neuronal cell death	PubMed
14. Rapid clearance through the ubiquitin-proteasome pathway slows huntingtin aggregate formation, yet increases cellular toxicity. Polyglutamine neurotoxicity may be triggered by non-aggregated protein and aggregate formation may be a defense mechanism	PubMed
15. Inhibiting the interaction of calmodulin with transglutaminase and huntingtin protein could decrease cross-linking and diminish huntingtin aggregate formation in the HD brain	PubMed

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Mutant huntingtin impairs axonal trafficking in mammalian neurons in vivo and in vitro.
Mol Cell Biol. 2004 Sep;24(18):8195-209.
PMID: 15340079 [PubMed - indexed for MEDLINE]

22: Yu ZX, Li SH, Evans J, Pillarisetti A, Li H, Li XJ. Related Articles, Links

Mutant huntingtin causes context-dependent neurodegeneration in mice with Huntington's disease.
J Neurosci. 2003 Mar 15;23(6):2193-202.
PMID: 12657678 [PubMed - indexed for MEDLINE]

23: Holbert S, Dedeoglu A, Humbert S, Saudou F, Ferrante RJ, Neri C. Related Articles, Links

Cdc42-interacting protein 4 binds to huntingtin: neuropathologic and biological evidence for a role in Huntington's disease.
Proc Natl Acad Sci U S A. 2003 Mar 4;100(5):2712-7. Epub 2003 Feb 25.
PMID: 12604778 [PubMed - indexed for MEDLINE]

24: Lin B, Nasir J, Kalchman MA, McDonald H, Zeisler J, Goldberg YP, Hayden MR. Related Articles, Links

Structural analysis of the 5' region of mouse and human Huntington disease genes reveals conservation of putative promoter region

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1: Mol Cell Biol. 2004 Sep;24(18):8195-209.
Related Articles, Links
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Mutant huntingtin impairs axonal trafficking in mammalian neurons in vivo and in vitro.
Trushina E, Dyer RB, Badger JD 2nd, Ure D, Eide L, Tran DD, Vrieze BT, Legendre-Guillemin V, McPherson PS, Mandavilli BS, Van Houten B, Zeitlin S, McNiven M, Aebersold R, Hayden M, Parisi JE, Seeberg E, Dragatsis I, Doyle K, Bender A, Chacko C, McMurray CT.
Department of Molecular Pharmacology and Experimental Therapeutics, Mayo ClinicFoundation, Rochester, Minnesota 55905, USA.
Recent data in invertebrates demonstrated that huntingtin (htt) is essential for fast axonal trafficking. Here, we provide direct and functional evidence that htt is involved in fast axonal trafficking in mammals. Moreover, expression of full-length mutant htt (mhtt) impairs vesicular and mitochondrial trafficking in mammalian neurons in vitro and in whole animals in vivo. Particularly, mitochondria become progressively immobilized and stop more frequently in neurons from transgenic animals. These defects occurred early in development prior to the onset of measurable neurological or mitochondrial abnormalities. Consistent with a progressive loss of

NIH Public Access Implementation

- Implementation of final Policy, published February 3, 2005 in the *NIH Guide* and *Federal Register*.
- Create Public Access Advisory Working Group of NLM Board of Regents composed of stakeholders to advise NIH and NLM on implementation and evaluation of policy.
- Develop information and training for NIH program staff and funded investigators.

NIH Public Access

Public Access - National Institutes of Health (NIH) - Microsoft Internet Explorer
File Edit View Favorites Tools Help
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Address http://www.nih.gov/about/publicaccess/index.htm
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National Institutes of Health
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Final NIH Policy
NIH Guide to Grants and Contracts, February 3, 2005 UPDATED
NIH Public Access Implementation Plan, February 3, 2005 NEW
News Releases and Related Articles
NIH Calls on Scientists to Speed Public Release of Research Publications, February 3, 2005 NEW
Information Access: NIH Public Access Policy, Elias A. Zerhouni, Science, December 10, 2004
Background Information
Public Access Questions and Answers, February 3, 2005 UPDATED
Public Access Background Information, October 13, 2004
Proposed NIH Policy
Extended Comment Period for the Draft Proposal for Enhanced Public Access to NIH Research Information, September 24, 2004
Federal Register, September 17, 2004
Internet

www.nih.gov/about/publicaccess/index.htm

DoD Legal & Regulatory Considerations

Panel: Open Access to Federally Funded STI Publications

DTIC 2005 Conference
06 April 2005

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Overview

- Why is DoD “Special”
- A Hypothetical DoD Program for Access to DoD-funded STI Publications
- Issues – Copyright and Data Rights
  - Procurement Contracts
  - Grants, Cooperative Agreements, and TIAs
- The Process for Change
- Questions?

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Why is DoD "Special"

- Sharing results of R&D efforts with the public ***IS*** a goal for DoD, but …
- Our R&D mission is more focused on our own, internal needs – developing defense technologies to ensure the warfighting dominance of the United States of America
- In the post-9/11 world, we are also carefully re-examining the type of information that we make available to the general public … which includes Osama Bin Laden

A Hypothetical DoD Program for Access to DoD-funded STI Pubs

- **Option 1**: brazen and shameless copying of the NIH program – taking advantage of their lessons learned

- **Option 2 (the Hypothetical):** a DoD-specific program that borrows some core elements of the NIH program, with a few notable changes:
  - MANDATORY submission of the materials
  - Primary form of "publication": the DTIC Private STInet
  - Alternative "publication": the DTIC Public STInet (also via NTIS) or similar

A Hypothetical DoD Program for Access to DoD-funded STI Pubs

- **Option 2 (the Hypothetical) … continued**
  - Applies to all contracts, grants, cooperative agreements, technology investment agreements, DoD intramural research
  - Submission of final manuscript upon acceptance for publication (incl. all peer-review revisions)
  - Any R&D funding in whole **or in part** by DoD
  - Voluntary is preferred, but the requirement is MANDATORY

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Issues – Copyright and Data Rights

- Mandatory requirement – the boundaries depend on the allocation of copyright or other IP rights in the materials

- When engaging in R&D primarily for—
  - DoD needs, use a procurement contract (15 USC ;
  - stimulation and assist for a public purpose, use a grant or cooperative agreement
  - Middle ground: an “other transaction” (10 USC 2371)

- In general, DoD approach to IP developed by contractors or awardees:
  - The private party retains title to the IP, and is primarily responsible for “commercialization” or other dissemination of the materials

  - The Government receives a LICENSE to use, reproduce, modify, disclose the information
    - SCOPE of the license depends on the funding instrument

Grants, Cooperative Agreements, and ~~Technology Investment Agreements~~

- **The DoDGARs** – DoD Grant and Agreement Regulations (DoD 3210.6-R; also 32 CFR Parts 21 to 37)

- **Grants and CAs, generally**: USG's copyright license in
  - Any work developed under the award
  - Any "data first produced under the award"
  - To reproduce, **publish**, and otherwise use the work
  - For "federal purposes" (not defined)
  - And to authorize others to do so

- TIAs: recommends a "Government Purpose" license – but allows for flexibility, depending on the needs of the parties
  - "Government Purpose" is defined same as in the DFARS →

Procurement Contracts

- **The DFARS** – Defense Federal Acquisition Regulation Supplement (DoD 3210.6-R; also 32 CFR Parts 21 to 37)
  - Technical Data – DFARS Part 227.7100
  - R&D Contracting – FAR Part 35 and DFARS Part 35

- "Hybrid" Copyright and Trade Secret license in "technical data" – See DFARS 227.7103
  - 100% Govt funded → Unlimited Rights (UR)
  - Mixed Govt-private funding → Govt Purpose Rights (GPR)
  - 100% Private Funding → Limited Rights (LR)
  - Specially Negotiated License → anything LR or above
  - Special case: SBIR – treated as privately developed for at least 5 yrs

Procurement Contracts (cont'd)

- From clause 252.227-7013, paragrah (a) definitions:

(12) "Government purpose rights" means the rights to—

(i) Use, modify, reproduce, release, perform, display, or disclose technical data within the Government without restriction; and

(ii) Release or disclose technical data outside the Government and authorize persons to whom release or disclosure has been made to use, modify, reproduce, release, perform, display, or disclose that data for United States government purposes.

(11) "Government purpose" means--

- any activity in which the United States Government is a party, including cooperative agreements with international or multi-national defense organizations, or sales or transfers by the United States Government to foreign governments or international organizations.
- Government purposes include competitive procurement, but do not include the rights to use, modify, reproduce, release, perform, display, or disclose technical data for commercial purposes or authorize others to do so.

Procurement Contracts (cont'd)

- **Doctrine of Segregability** (DFARS 227.7103-4(b))
  - Source of funding determination is done at the "lowest practical level"
  - Divide up the item into its component parts and allocate rights to each component
  - Example: mixed funding project – GPR by default
    - Some elements 100% Govt → Unlimited Rights
    - Some elements mixed → Govt Purpose Rights
    - Some elements 100% private → Limited Rights

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The Process for Change

- Drafting Team – representation from all corners of DoD
- Uniformity and Clarity: Initiate changes to the regulation
  - PKs: The DFARS
    - NOTE: For “Internal” DoD Procedures – only need to modify the Procedures, Guidance, and Information (PGI) materials
  - Grants/CAs/TIAs: The DoDGARS
- Public Meeting or Informal request for feedback?
- Formal Publication of the proposal for public comment
- Publication of the final implementation

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BACKUP SLIDES

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Intellectual Property Basics

- USD(ATL) Guide: "Intellectual Property: Navigating Commercial Waters"
  (http://www.acq.osd.mil/dpap/Docs/intelprop.pdf)
  - Chapter 2 – Intellectual Property Framework
    - Table 2.1: Most Common Types of IP Protection
    - Tables 2.2 & .3: Overview of DFARS data & software rights
  - Appendix B: all of the grotesque details behind Table 2.1
- Patents & Trademarks:
  - USPTO Website: http://www.uspto.gov
- Copyrights:
  - Copyright Office: http://www.loc.gov/copyright/
  - CENDI – FAQ About Copyright: http://www.dtic.mil/cendi/publications/00-3copyright.pdf

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Table 2-2. Rights[1] in Noncommercial Computer Software (CS) and Technical Data (TD) Covering Noncommercial Items

Rights Category[2]	Applicable to TD or CS?	Criteria for Applying Rights Category	Permitted Uses within Government	Permitted Uses outside Government[3]
Unlimited Rights (UR)	Both TD and CS	Development exclusively at Government expense;[4] also any deliverable of certain types—regardless of funding.[5]	Unlimited; no restrictions.	
Government Purpose Rights (GPR)	Both TD and CS	Development with mixed funding.[4]	Unlimited; no restrictions.	Only for "Government purposes"; no commercial use.
Limited Rights (LR)	TD only	Development exclusively at private expense.[4]	Unlimited, except may not be used for manufacture	Emergency repair/overhaul; evaluation by foreign government.
Restricted Rights (RR)	CS only	Development[1] exclusively at private expense.[4]	Only one computer at a time; minimum backup copies; modification.	Emergency repair/overhaul; certain service/maintenance contracts.
Prior Government Rights	Both TD and CS	Whenever Government has previously acquired rights in the deliverable TD/CS	Same as under the previous contract.	
Specifically Negotiated License Rights (SNLR)	Both TD and CS	Mutual agreement of the parties; use whenever the standard rights categories do not meet both parties' needs	As negotiated by the parties; however, must not be less than LR in TD, and must not be less than RR in CS.[6]	

Notes:

1. Critical Need to Specify Deliverables. The standard clauses address rights but do *not* include delivery requirements. The contract must explicitly specify the content, format, and delivery medium for all IP deliverables that are necessary to meet DoD's needs. For TD, it is necessary to specify the level of detail and requirements for delivery in preferred electronic/digital formats. For CS, it is critical to specify requirements for both the executable code and the source code.

2. Mandatory Listing Requirements. All TD and CS to be delivered with less than UR *must* be identified in a list attached to the contract. Pre-award listing requirements are specified at DFARS 252.227-7017; post-award requirements are at DFARS 252.227-7013(e) and -7014(e).

3. Release Procedures/Restrictions. All authorized third-party recipients of TD/CS with other than UR must either sign the standard NDA from DFARS 227-7103-7 or receive the TD/CS under a contract containing DFARS 252.227-7025. Additional notice requirements exist for releases of LR data or RR software.

4. Source of Development Funding—at the "Lowest Practicable Level." For TD, the determination is based on the funding for the development of the item, component, or process (ICP) to which that data pertains (vice the development of the technical data itself). For CS, the determination is based on the source of funding for that software. If the ICP or software is developed with mixed funding, the default GPR license may be inequitable if the Government has funded only a small portion of the overall development costs. This imbalance is resolved by determining the source of funding at "lowest practicable level": the deliverable ICP or software is divided into segregable components (e.g., sub-elements of ICPs, or sub-routines of CS), and the funding determination is made for each of the components individually. For TD, see DFARS 227.7103-4(b) and 252.227-7013(a)(6)-(9); for CS, see DFARS 227.7203-4(b) and 252.227-7014(a)(6)-(9).

5. Unlimited Rights—Regardless of Funding Source. Paragraph (b)(1) of the DFARS 252.227-7013 and -7014 clauses establish numerous categories for which the Government is entitled to receive UR, regardless of which party funded the development of the underlying technology. For example, "form, fit, and function" data; or data/software that is publicly available without restrictions. See 10 U.S.C. 2320(a)(2)(C).

6. Minimum Rights. For TD, the minimum rights are established by statute (10 U.S.C. 2320) and are nonnegotiable. For CS, the minimum rights are based solely on the DFARS, for which the parties could seek a deviation in circumstances in which DoD's requirements can be satisfied with less than RR.

Table 2-3. Rights[1,2] in Commercial Computer Software[3,4] (CS) and Technical Data (TD) Covering Commercial Items[3,4]

Rights Category[5]	Applicable to TD or CS?	Criteria for Applying Rights Category	Permitted Uses within Government	Permitted Uses outside Government
Unlimited Rights (UR)	TD only	Any TD of certain specified types or classes, regardless of commercial status.[6]	Unlimited; no restrictions.	
Standard DFARS "7015" Rights	TD only	Default rights category for all TD covering commercial items except those qualifying for UR as stated above.	Unlimited, except may not be used for manufacture.	Only for emergency repair overhaul.
Standard Commercial License	CS only	Default rights category for all commercial CS.	As specified in the license customarily offered to the public, DoD must negotiate for any specialized needs.	
Specifically Negotiated License Rights (SNLR)	Both TD and CS	Mutual agreement of the parties; should be used whenever the standard rights do not meet both parties' needs.	As negotiated by the parties; however, by statute, the Government cannot accept less than the minimum standard 7015 rights in TD.[7]	

Notes:

1. Critical Impact on IP Delivery Requirements. DoD policy is to acquire, in addition to lesser rights, only those IP deliverables that are customarily offered to the public. In many cases this will be substantially different (e.g., less detailed TD; no source code for CS) than the deliverables DoD typically receives for noncommercial TD or CS. DoD must specifically negotiate for any additional IP deliverables that it requires.
2. Key: Early Identification of Commercial Technologies. Because both the IP deliverables and the license rights are significantly affected when acquiring commercial technologies, it is critical to identify how these issues affect the acquisition strategy early in the acquisition process.
3. Definitions. "Commercial item" is defined at FAR 2.101 (and 52.202-1), and "commercial computer software" is defined in DFARS 252.227-7014(a)(1).
4. Adapting/Modifying Commercial Items. Commercial items may be modified to meet DoD's requirements without losing their commercial status, as long as the adaptations qualify as "minor modifications" or modifications "of a type customarily available in the commercial marketplace." See FAR 2.101(c), and DFARS 252.227-7014(a)(1) and (12).
5. DFARS Rights versus Standard Commercial Licenses. Rights in TD covering commercial items are specified at DFARS 252.227-7015; the default rights are similar to limited rights that apply to noncommercial TD. There is no clause covering commercial CS; DoD takes the rights customarily offered to the public (often a "shrink-wrap" or "click-wrap" license) unless those rights do not meet DoD's minimum needs or violate Federal procurement law. In all cases, a copy of the standard commercial license agreement or any SNLR must be attached to the contract.
6. Unlimited Rights—Regardless of Commercial Status. DFARS 252.227-7015(b)(1) lists numerous categories of TD for which the Government is entitled to receive UR—regardless of the commercial status or source of funding for the technology. For example, "form, fit, and function" data or data/software that is publicly available without restrictions. The categories are based on 10 U.S.C. 2320(a)(2)(C).
7. Minimum Rights. For TD, the minimum rights are established by statute (10 U.S.C. 2320) and are nonnegotiable.

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Procurement Contracts – Tech Data & Computer Software

- **Hybrid license – license rights cover both**
  - **Copyright**
  - **Trade secret**
- Critical Distinction: Noncommercial vs. Commercial Technologies
- **Noncommercial – rights generally based on relative funding for development**
- **Commercial – generally take minimum rights to use**
  - Tech Data: ~ Limited Rights
  - Software: standard commercial license -- as long as…

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Procurement Contracts –

Deliverables vs. Rights

- Standard clauses do NOT include delivery requirements
- Content
- Recording/storage format
- Delivery medium